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G07F 17/32 17/34

(52) UK CL (Edition P)
G4V VAA V118 V119

(56) Documents Cited

GB 0970806 A EP 0214290 A1 WO 96/23286 A1
US 5292127 A US 4837728 A

(58) Field of Search
UK CL (Edition P) G4V VAA
INT CL⁶ G07F 17/32 17/34

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(54) Abstract Title

Entertainment machine system

(57) A games system comprises a plurality of entertainment machines 1 linked to a common display device 21, which may be a set of reels 22 or a selector wheel (17, figure 1), and an award is made available at one or more of the individual machines 1 in dependence on a display attained on the common display device 21. This may provide an additional award opportunity for one of the individual machines 1, or alternatively when one machine 1 attains a win on the common display device 21, the winnings may be shared amongst all of the linked machines 1. The award paid out from the common display device 21 is preferably of greater value than can be won on an individual machine 1 without using said common display device. The entertainment machines 1 may be coin operated 'fruit' or 'poker' machines. Preferably, the entertainment machines 1 are located side by side, and the common display device may be mounted on top of the machines 1.

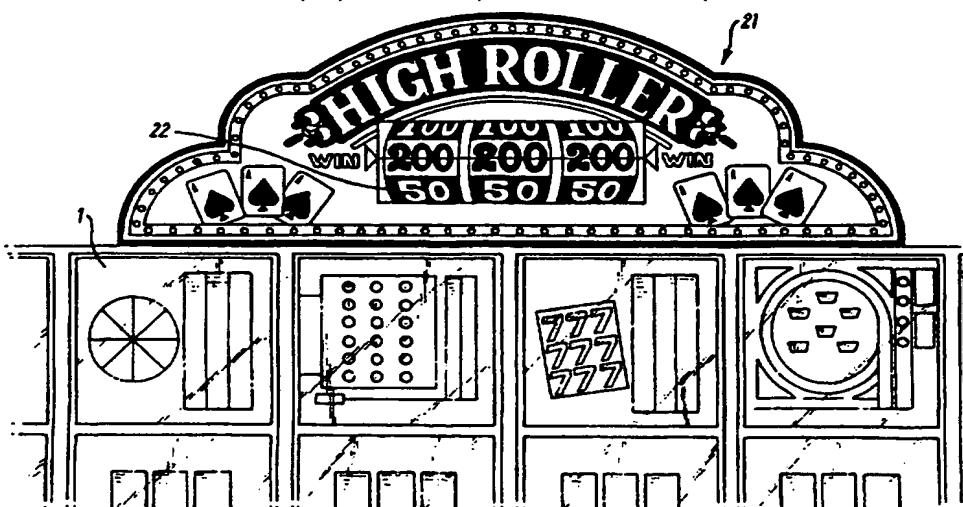
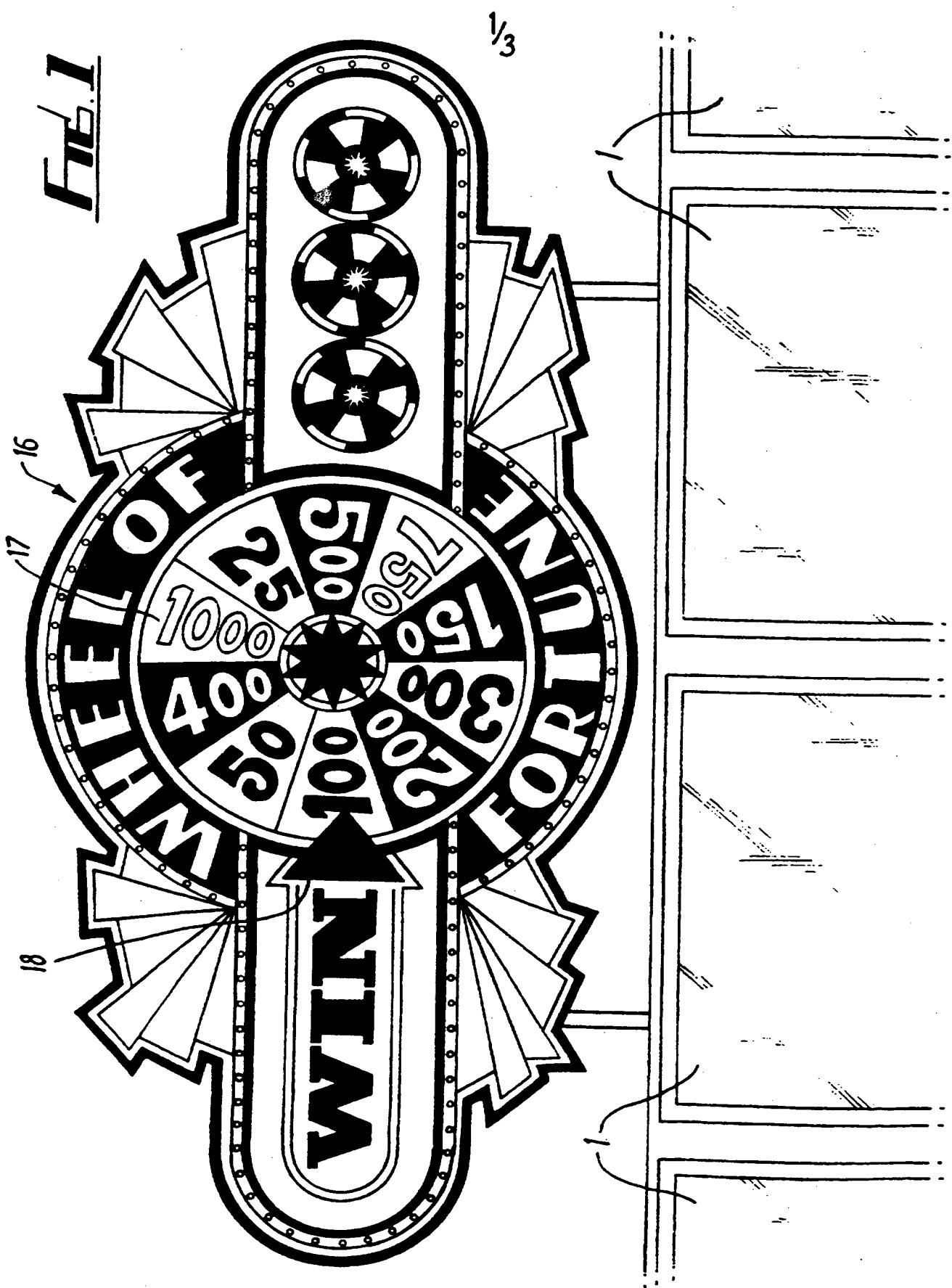
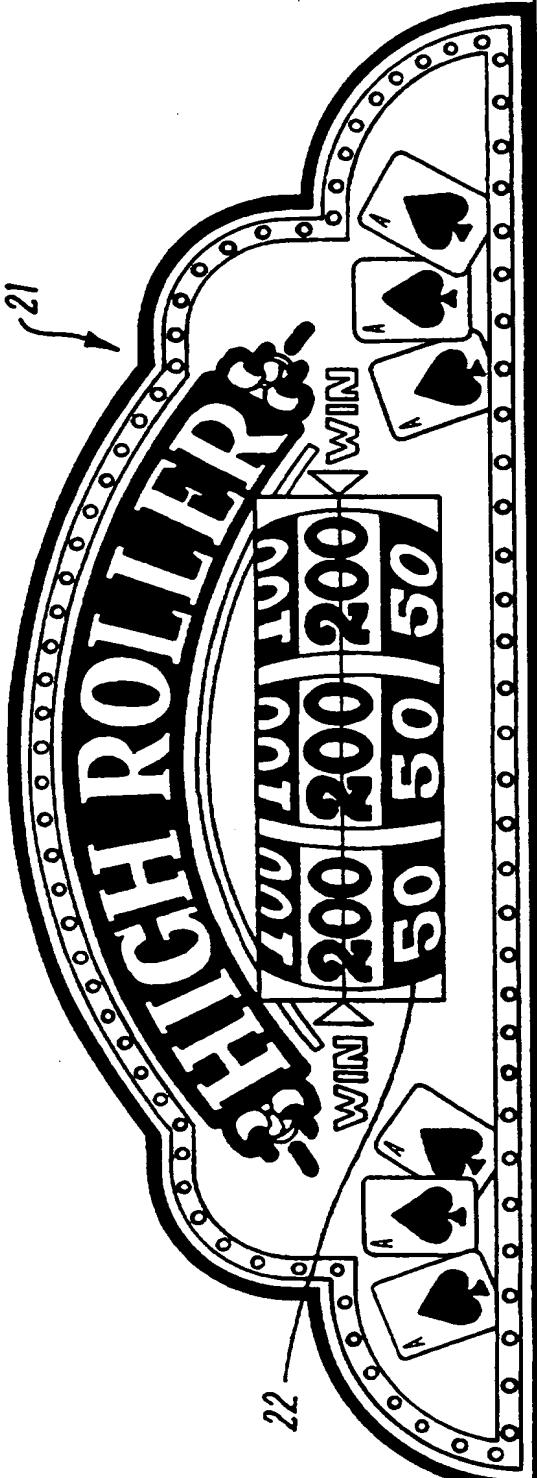


FIG.2

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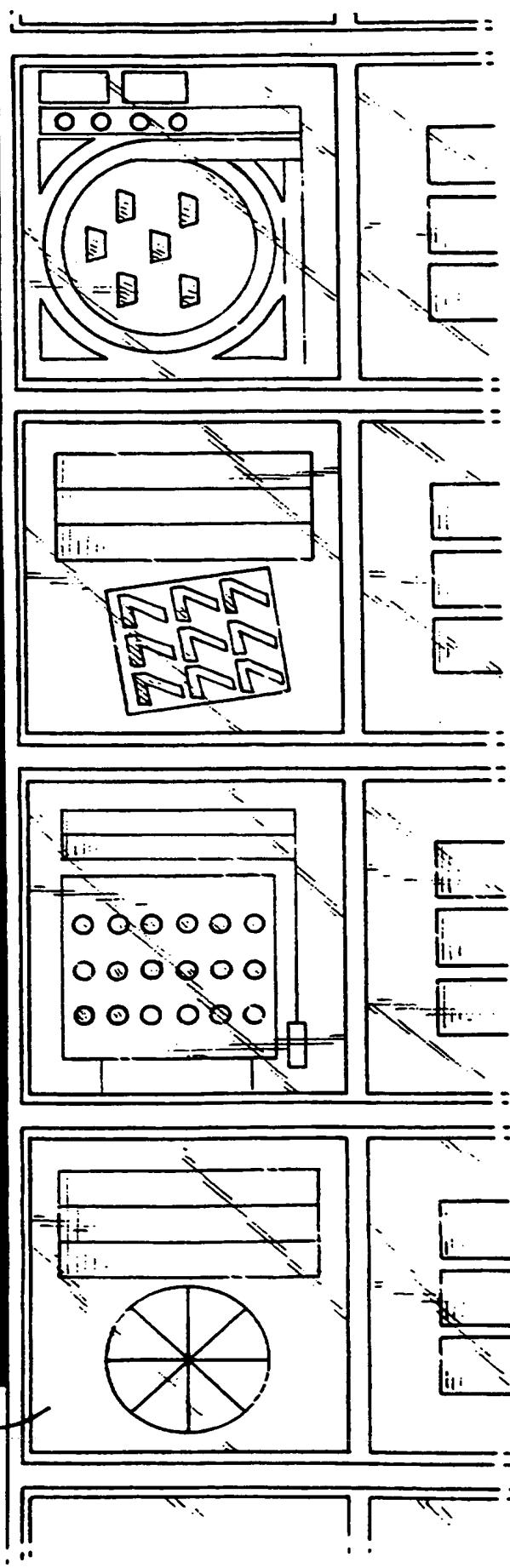


Fig. 2

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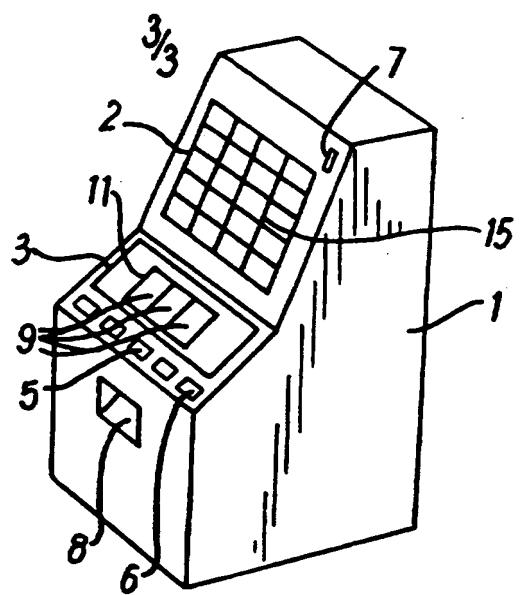


FIG. 3

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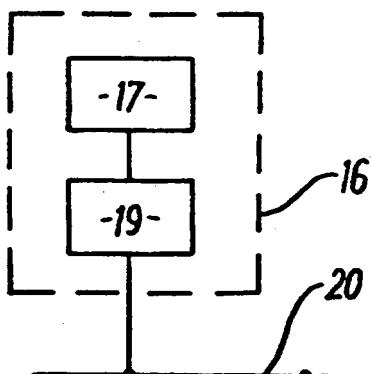
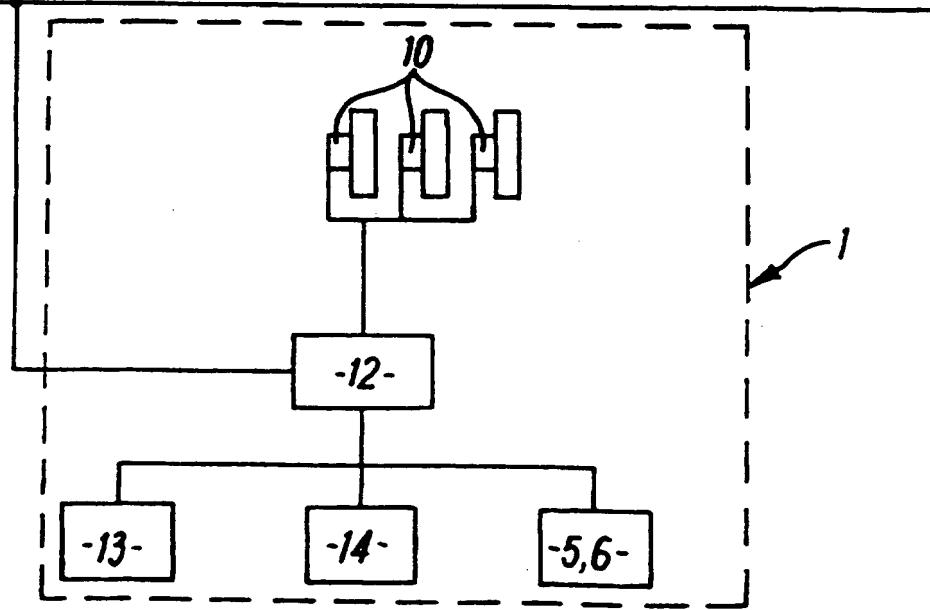


FIG. 4



ENTERTAINMENT MACHINES

This invention relates to player-operable entertainment machines.

The invention is more particularly, although not exclusively concerned with coin-operated entertainment machines of the 'fruit' machine or
5 'poker' machine kind having a main display device for displaying a selected combination of symbols at a win zone. A game is played resulting in selection of the displayed combination of symbols, and an award is made available to the player in the event that the combination is of a predetermined winning nature.

10 As used herein, the term coin-operated is intended also to cover operation by tokens, charge or credit cards or any other means of supplying credit or monetary value.

Known fruit machines are usually operated independently whereby the range of available awards is limited by the operational parameters, for
15 example the pay-out ratio, of a particular machine. However, there are circumstances, such as in casinos, where machines are operated at adjoining or close locations and this gives rise to possibilities for interrelationship between individual machines and consequent enhanced ranges of awards.

20 An object of the present invention is to provide a game system using multiple entertainment machines arranged to give improved or enhanced award possibilities.

According to the invention therefore there is provided a games systems comprising a plurality of entertainment machines linked to a common display device, each machine being operable to play a game, and an award being made available at one or more of the machines in dependence on a display attained on the display device.

With this arrangement an award is attained as a consequence of an event separate from each machine whereby the range of available awards can be enhanced relative to the awards available with a machine operated independently.

Since the available awards may be different from those attainable with an independent machine and also can be achieved in a different manner, the player may be presented with greater game-playing variety and entertainment and also, in so far as the award structure is determined by factors additional to those derived from an independent machine, there may be possibilities for improved (i.e. larger or increased frequency) awards. In the latter respect, the display device may add award-determining factors and/or the multiple machines may contribute collectively to award-determination.

In one embodiment, the common display device may provide an additional award-determining feature for each machine, whereby play transfers to the display device from one machine, e.g. as a consequence of a predetermined result attained on such machine, and the player may attain

an award through such machine as a consequence of the outcome of an action displayed on the common display device.

In another embodiment, the common display device provides an award-determining feature for a plurality of machines, whereby for example an award attained as a consequence of a result achieved with one machine 5 is shared with other machines e.g. with other machines currently in play.

Each machine is preferably a coin-operated machine of the 'fruit' or 'poker' kind as described above. In particular, the machine may be of the kind having multiple side-by-side reels rotatable about a common horizontal axis within a housing behind a window at the win zone, each reel having symbols at equally spaced positions around its periphery and the reels being arranged to be rotated and then brought to rest with one or more symbols on each reel displayed through the window for example on a win line. Each machine may have manual controls such as 'hold', 'nudge' and the like for 10 player intervention in a game, and each machine may have a supplementary display or 'games feature' which can be used to enhance the entertainment value of the machine and provide additional or alternative opportunities for winning through the playing of a supplementary game.

It is however to be understood that the invention is not restricted to 15 reel-type fruit machines as described above. The machines may use simulated reels (video displays) or other random or pseudo-random symbol selecting devices, and indeed the machines may be of any suitable AWP

(amusement with prizes), gaming, SWP (skill with prizes) or other kind.

With regard to the common display device, this may take any suitable form and thus, for example, may comprise a selector device, such as a rotatable wheel with awards marked thereon, or it may comprise a plurality of rotatable reels in like manner to the machine symbol selectors mentioned above. Any other suitable display device may be used.

The individual machines may be located side by side in a row as floor-standing housed machines, and the display device may be mounted as a separate unit, on top of the machines with appropriate connections therebetween.

Any other suitable arrangement may also be used, and thus the display device may be connected to all, or only selected ones of any suitable number and arrangement of machines whether or not close to each other or to the display device.

With regard to the awards made available with the invention, these may be of any suitable kind and thus may comprise payout of cash, tokens or other credit, or free games or prizes or scores or any other suitable award.

The invention will now be described further by way of example only and with reference to the accompanying drawings in which:-

Figs. 1 & 2 are diagrammatic front views of machines connected to a common display in accordance with two embodiments of the

invention;

Fig. 3 is a diagrammatic perspective view of one of the machines;
and

Fig. 4 is a block circuit diagram illustrating a typical control
5 arrangement for the embodiments of Figs. 1 & 2.

Referring to the drawings, these show multiple side by side fruit machines each having a floor-standing box-shaped housing 1 having a front wall which includes upper and lower glass panels 2, 3, a number of player operating buttons 5, 6 a coin slot 7 and a payout opening 8.

10 Within the housing 1 there are three axially aligned reels 9 having say 20 symbols at regularly spaced positions around their peripheries. The reels 9 are axially rotatable and are drivably connected to respective stepper motors 10. The reels 9 are arranged behind a window 11 defined by a printed region of the lower glass panel 3. Each reel 9 can be arrested by 15 the respective stepper motor 10 in any of 20 stepping positions in which one symbol is in precise registration with a horizontal win line in the centre of the window 11 and two further symbols are visible above and below the win line.

The stepper motors 10 are connected to a microprocessor-based 20 control unit 12. This unit is also connected to a coin-mechanism 13, a payout mechanism 14 and the buttons 5, 6.

In use, the player inserts coins into the coin mechanism 13 through

the slot 7 sufficient to generate credit for one or more games, and the machine is actuated so that a game can now be played. The game commences after a start button 5 has been pressed and the reels 9 spin and then come to rest so as to select a combination of symbols displayed on the 5 win line. The displayed symbol combination is assessed by the control unit 12 and a win indication is given in the event that the combination is of a predetermined winning nature.

The control buttons 5 can be used to perform 'hold' or 'nudge' functions, when made available to the player, so that the player can seek 10 to influence the outcome of a game, in conventional manner.

The upper panel 2 is a transparent glass panel and behind this there is a display region 15, which can be back-illuminated and which provides a supplementary games feature.

As shown in Fig. 1, the multiple side by side fruit machines are in 15 fixed positions alongside each other and a housed display unit 16 is mounted in a fixed position on top of the machines centrally of the row thereof so that it can be readily seen by a player operating any of the individual machines.

The display unit has a motor-driven wheel 17 marked with award 20 values. The wheel 17 can be rotated and then brought to rest with one such value selected by alignment with a fixed pointer 18.

The motor and control circuitry 19 for the display unit 16 is

connected via a bus 20 to the control units 12 of the individual machines.

Each machine connected to the display unit 16 has a special feature whereby on attaining some specific target or game result on the machine, such as a specific combination of symbols on the main reels 10, or an accumulated score, or a winning outcome of the supplementary game on the display 15, or the like, the display unit 16 is actuated and the player now has the opportunity of attaining an award as determined by, or indicated on the display unit 16.

This may occur automatically in that the wheel 17 is automatically rotated and the player then attains the award shown on the wheel 17. Alternatively, the player may be given the possibility of influencing the outcome in that, for example, the player has to press a button to start and/or stop the wheel 17.

The resulting award may be communicated back to the respective machine which triggered the display unit 16 and this may result in a payout, and/or the award may be accumulated in the machine with existing awards, or any other suitable action may be taken.

In this way, the players of the individual machines are given a further opportunity for attaining a win. This adds to entertainment and variety and also may enable the players to obtain a larger win than the maximum which can be obtained with an individual machine. In effect, the players may be given the opportunity of a communal jackpot in addition to the individual

jackpots on the machines.

With the embodiment of Fig. 2, the arrangement is similar to Fig. 1, except that the display unit 21 has three rotatable reels 22, each marked with award values, rotatable behind a window with a central horizontal win line, like the reels 10 of the machines. The unit 21 is connected to the bus 20 in like manner to the unit 16 described in relation to Fig. 1.

With this arrangement, transfer of play to the display unit 19 from an individual machine, occurs in like manner to the arrangement of Fig. 1. Then the reels on the display unit are rotated and brought to rest and the displayed combination determines whether an award has been attained and if so what is its value. Thus, an award may be attained if three identical values are displayed on the win line, the award being equal to such value.

Once an award has been attained with the display unit 21, this is awarded to all machines which are connected to the display unit 21 and which are currently in play. Each machine may receive the same award value being the value selected by the display unit, or being an equal share of this value.

With this arrangement additional entertainment value and enhanced awards can be obtained, and in particular a player has the opportunity of benefiting even when he has not been able to attain a win on the individual machine which he is playing.

As described above, the display unit is mounted on and connected to

all machines of a linked row of machines. It is to be understood that the invention is not restricted to this arrangement.

The display unit 16 or 21 may be linked to all of a small number (e.g. 2 to 5) of machines. It may alternatively be linked to more machines
5 which need not be alongside each other, and the unit need not be on or close to the machines as long as it is in a position in which it is readily visible. Thus the unit may be linked to all machines in a casino.

The unit may also be linked selectively to only some of the machines.

It is to be understood that the invention is not intended to be
10 restricted to the details of the above embodiment which are described by way of example only.

Thus, for example, where an award on the display unit is made available to multiple machines this may be shared, as described, in the sense of being subdivided between the respective played machines.
15 Alternatively, however, each played machine may receive the same award equal to the displayed value, or some other basis of sharing or duplication may be utilised.

With the embodiment of Fig. 1, the system operates such that the display unit 16, when actuated, is associated with one only of the machines
20 1, whereby it is only that machine which can be used to start and/or stop the wheel 17 (in the case where the player is given the opportunity of influencing selection with the wheel), and it is only that machine which

benefits from any award attained with the display unit 16. During such actuation of the display unit 16, association between the other machines 1 and the display unit 16 is blocked. That is, players of the other machines can observe the display unit 16 but their machines are incapable of entering
5 into a mode in which play is transferred to the display unit 16. This blocking may be achieved in that the attainment of the result on these other machines which would initiate, or provide the opportunity of transfer, is inhibited or, alternatively, the result may be attained but its execution may be delayed until the existing use of the display unit has finished, for
10 example, the result may be displayed to the player on the individual machine with a message that transfer is being delayed, or some other machine action may be initiated before informing the player that transfer is available.

With the arrangement of Fig. 2, when the display unit 21 is actuated as a consequence of a result attained on one machine, this may have the
15 effect of intervening with existing machine already in play in that the current game is interrupted or cancelled pending the outcome of the operation of the display unit 21, or, alternatively, current games may be allowed to proceed with any award arising from operation of the display unit 21 simply being credited to the other machines in play so as to be shown to the player
20 at the end of a game or at some other convenient opportunity. The player may be made aware of the potential additional award by virtue of the actuation of the unit 21 and/or by actuation of a signal, such as a flashing

light, illuminated message or the like on the individual machine which may occur during or after game playing.

As mentioned, the additional award which can be attained with the display unit 16 or 21 may be of the nature of a jackpot which may be

5 greater than that which can be attained with an individual machine without using the display unit 16 or 21. This may be of a predetermined, randomly awarded nature, or may be determined by operation of the individual machines in that value builds up in the unit 16 or 21 in dependence on play of the individual machines (e.g. in dependence on attainment of

10 predetermined results, or number of games played, etc) whereby the jackpot becomes available when the accumulated value from all machines has reached the predetermined jackpot level, this then being awarded on a predictable or random or other basis. It is however to be understood that the display units 16 and 21 can also be used to make other awards

15 additionally or alternatively to a jackpot award, and the unit 16 or 21 may provide the opportunity for a single award or for a range of awards.

Whilst reference is made above to coin operated fruit machines, the machines 1 may be other kinds of machines. Also, it is possible to use a mixture of kinds of machines whereby for example at least one fruit

20 machine is used in combination with one or more other kinds of machines.

CLAIMS

1. A games system comprising a plurality of machines linked to a common display device, each machine being operable to play a game, and an award being made available at one or more of the machines in dependence on a display attained on the display device.
5
2. A game system according to claim 1 wherein the common display device provides an additional award-determining feature for each machine.
3. A game system according to claim 2 wherein play can transfer from any one said machine as a consequence of a predetermined result attained
10 on such machine.
4. A game system according to claim 3 wherein the said award is made available, at said one machine only, as a consequence of the outcome of an action displayed on the common display device.
5. A game system according to claim 1 wherein the common display
15 device provides an award-determining feature for a plurality of said machines.
6. A game system according to claim 5 wherein an award is attained as a consequence of a result achieved with one said machine and this is shared or duplicated amongst one or more other said machines.
- 20 7. A game system according to claim 6 wherein the attained award is shared or duplicated amongst one or more other said machines which are currently in play.

8. A game system according to any one of claims 1 to 7 wherein the said award is a jackpot award of greater value than any award which can be attained with an individual said machine without using the said display unit.
- 5 9. A game system according to any one of claims 1 to 8 wherein each said machine is a coin-operated entertainment machine of the 'fruit' or 'poker' kind as hereinbefore described.
- 10 10. A game system according to claim 9 wherein each said machine is of the kind having multiple side-by-side reels rotatable about a common horizontal axis within a housing behind a window at the win zone, each reel having symbols at equally spaced positions around its periphery and the reels being arranged to be rotated and then brought to rest with one or more symbols on each reel displayed through the window.
- 15 11. A game system according to any one of claims 1 to 10 wherein the common display device comprises a selector device.
12. A game system according to claim 11 wherein the selector device comprises a rotatable wheel with awards marked thereon.
13. A game system according to claim 11 wherein the selector device comprises a plurality of rotatable reels.
- 20 14. A game system according to any one of claims 1 to 13 wherein the said machines are located side by side in a row.
15. A game system according to claim 14 wherein the common display

-14-

device is mounted as a separate unit on top of the machines with connections therebetween.

16. A games system substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

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The Patent Office

15.

Application No: GB 9727353.6
Claims searched: All

Examiner: Dr Steven Chadwell
Date of search: 3 February 1998

Patents Act 1977 Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.P): G4V (VAA)

Int Cl (Ed.6): G07F 17/32 17/34

Other: None

Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
X	GB 970806	(CROMPTON) see whole specification, particularly figure 1 and page 1 line 72 to page 2 line 69.	1,5,8,11, 14,15
X	EP 0214290 A1	(SIGMA) see whole specification, especially figure 1	1,5,8,11, 13,14
X	WO 96/23286 A1	(NSM) see particularly abstract and figure	1-5,9, 10,14
X	US 5292127	(LAZER-TRON) see especially figure 1 and column 1 lines 43-60 and column 2 line 65 to column 4 line 19	1,2,5,8,14, 15
X	US 4837728	(IGT) see figures 1,2 and column 1 line 57 to column 4 line 26	1,2,5, 8-10,14,15

X Document indicating lack of novelty or inventive step
Y Document indicating lack of inventive step if combined with one or more other documents of same category.
& Member of the same patent family

A Document indicating technological background and/or state of the art.
P Document published on or after the declared priority date but before the filing date of this invention.
E Patent document published on or after, but with priority date earlier than, the filing date of this application.

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 29757/AG53-PCT	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 02/38696	International filing date (day/month/year) 03/12/2002	(Earliest) Priority Date (day/month/year) 03/12/2001
Applicant IGT		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 6 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing :
 - contained in the international application in written form.
 - filed together with the international application in computer readable form.
 - furnished subsequently to this Authority in written form.
 - furnished subsequently to this Authority in computer readable form.
 - the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
 - the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. Certain claims were found unsearchable (See Box I).

3. Unity of invention is lacking (see Box II).

4. With regard to the title,

- the text is approved as submitted by the applicant.
- the text has been established by this Authority to read as follows:

5. With regard to the abstract,

- the text is approved as submitted by the applicant.
- the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

- as suggested by the applicant.
- because the applicant failed to suggest a figure.
- because this figure better characterizes the invention.

1

None of the figures.

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 02/38696

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G07F17/34

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G07F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2001/024970 A1 (BOLICH KATHLEEN C ET AL) 27 September 2001 (2001-09-27) figure 1 paragraphs '0009!, '0010!, '0019!, '0020!, '0023! -----	1-19
X	GB 2 322 217 A (BARCREST LTD) 19 August 1998 (1998-08-19) abstract figure 2 page 2, lines 1-5 page 3, line 7 - page 4, line 6 page 6, line 22 - page 7, line 1 -----	39,40
X	US 4 805 907 A (HAGIWARA TAKASHI) 21 February 1989 (1989-02-21) abstract figures 1,2 -----	39,40
	-/-	

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

3 August 2004

Date of mailing of the international search report

11/08/2004

Name and mailing address of the ISA

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Gabriel, C

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 02/38696

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 142 872 A (MIK MAGDALENA ET AL) 7 November 2000 (2000-11-07) abstract figures 1,4 -----	39,40
X	US 6 241 607 B1 (NICELY MARK C ET AL) 5 June 2001 (2001-06-05) cited in the application abstract figure 2 -----	1-19
X	DE 38 22 636 A (NSM APPARATEBAU GMBH KG) 11 January 1990 (1990-01-11) abstract -----	1-19
A	US 6 105 962 A (MALAVAZOS CONSTANTINE ET AL) 22 August 2000 (2000-08-22) cited in the application abstract figure 1 -----	1-19

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FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 20-38

The claims relate to subject matter for which no search is required according to Rule 39 PCT. Given that the claims are formulated in terms of such subject matter or merely specify commonplace features relating to its technological implementation, the search examiner could not establish any technical problem which might potentially have required an inventive step to overcome. Hence it was not possible to carry out a meaningful search into the state of the art (Art. 17(2)(a)(i) and (ii) PCT; see PCT International Search Guidelines, Chapter VIII, items 1 to 3).

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 02/38696

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: 20-38 because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210

3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 02/38696

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
US 2001024970	A1 27-09-2001	AU CA EP JP WO	4340001 A 2403706 A1 1277182 A2 2003525718 T 0166208 A2	17-09-2001 13-09-2001 22-01-2003 02-09-2003 13-09-2001
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